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PALEONTOLOGY.—*Antillophyllia*, a new coral generic name.¹

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The genus *Antillophyllia* may be defined as follows:

Corallum simple, turbinate, compressed turbinate, bilobate, or sub-cornute in form; attached at least in the earliest stages, pedicel minute or moderately large. Externally invested by a more or less complete, detachable epitheca. Costae distinct, moderately prominent, subequal or equal in size, margins with very regular, usually transversely compressed dentations. Septa numerous, with minutely dentate margins, the dentations frequently (if not always) papilliform in character. Margins of the larger septa divided by a sinus into an inner and outer lobe, the inner very narrow in the constricted portion of bilobate calices. Septal faces with fine opposed striations, along whose courses are granulations. The striations are finer on the inner than on the outer septal lobe. Columella not greatly developed, compressed in the plane of the greater diameter of the calice, vesicular. Dissepimental endotheca very abundant; exotheca frequently well developed, sometimes forming a wall outside of an inner wall which originates by the thickening of the sides of the septa.

Type species.—*Antillia lonsdaleia* Duncan from the Miocene of the Dominican Republic.

P. Martin Duncan (1864, p. 28) proposed the name *Antillia* and included in it four species, viz., *Montlivaultia ponderosa* Duncan (not Milne Edwards and Haime), *Antillia dentata* Duncan, *A. lonsdaleia* Duncan, and *A. bilobata* Duncan. He later added another species, *A. walli* (Duncan and Wall, 1865, p. 11). These five species represent two systematic groups of corals, one of which has coarsely dentate septal margins, contains the species wrongly identified as *Montlivaultia ponderosa* M. Edw. and Haime and *Antillia dentata* Duncan. It is related to the mussoid corals. The other group has septa with finely dentate margins and to it belong *A. lonsdaleia*, *A. bilobata*, and *A. walli*, all described by Duncan.

There was confusion at the start. Not only did Duncan include two different genera under *Antillia* when he first proposed the name, but he made a double misidentification of species. Comparison of photographs of the type of *Montlivaultia ponderosa* M. Edwards and Haime kindly sent me from the Museum of Natural History in

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Paris shows that Duncan's *Montlivaultia ponderosa* from the Miocene of Bowden, Jamaica, is not *Montlivaultia ponderosa* Milne Edwards and Haime. I undertook to correct this error by naming the Bowden, Jamaica, species *Antillia gregorii* (Vaughan, 1901, p. 6). The specimens from the "Nivajé Shale," Dominican Republic, identified by Duncan as "*Antillia ponderosa*" is, as shown by an examination of the specimen studied by Duncan, not the same species as the Bowden "*Antillia ponderosa*," but is Duncan's *Antillia dentata* from the Dominican Republic. Duncan's *Antillia ponderosa*, therefore, included two species, neither one of which was *Montlivaultia ponderosa* M. Edwards and Haime.

J. W. Gregory (1895, p. 266) wrote as follows:

"The inclusion in the list of synonyms of a species which Duncan assigned to *Antillia* renders necessary a remark on this genus, and on the value of the epitheca in this group. The genus was founded by Duncan in 1864; he included in it a series of species agreeing in having an essential columella and a membraniform epitheca. The septa and costae are of two types: in some species, as in his type-species *A. ponderosa*, the septa are not lobed and the costae are coarsely dentate; in other species, such as *A. lonsdaleia*, the septa are lobed and the costae finely granulate. In his 'Revision' (p. 60) he reduces the genus to a subgenus of *Circophyllia*, and still bases its value on the epitheca.

The examination of a considerable series of specimens shows, however, that the epitheca is so very variable in this group that it does not appear worthy of even subgeneric value; the characters of the septa and costae seem much more important. In some specimens the epitheca is present and in others, quite rudimentary, and all stages can be seen between the two conditions. In this case the genus has to be split up into two. Duncan's type goes into *Lithophyllia*, and the *A. lonsdaleia* and some others go into *Circophyllia*."

In 1901 I wrote (Vaughan, 1901, p. 6):

"I am not sure that these two species (*Lithophyllia lacera* (Pallas) and *L. cubensis* (M. Edw. & H.) are really distinct; however, I am sure that *Antillia ponderosa* Duncan (non-Milne Edwards and Haime) is a distinct species and does not belong in the synonymy of *L. cubensis*. As Duncan wrongly identified the species with Milne Edwards and Haime's *Montlivaultia ponderosa*, it has no name. Therefore I propose to call it *Antillia gregorii*, nom. nov."

The type species of *Antillia* is *Antillia gregorii* Vaughan, which is, as has been stated, Duncan's *Antillia ponderosa*, not *Montlivaultia ponderosa* Milne Edwards and Haime.

Reuss (1860, p. 216, pl. 1, figs. 10-12, pl. 2, fig. 10) described the genus *Syzygophyllia* from the eastern Hungarian Miocene. The type species is *S. brevis* Reuss (Vaughan, 1919, p. 424). *Antillia* Duncan, 1864, is a synonym of *Syzygophyllia* Reuss, 1860.

A few notes will be made on *Circophyllia*. Filliozat (1914, pp. 96-97) has said:

"Grace à la grande complaisance de M. le Professeur Joubin, j'ai eu depuis l'occasion d'examiner attentivement au Muséum les échantillons de *Circophyllia truncata* de la collection Milne Edwards. Je puis alors constater que la diagnose des auteurs présentait des lacunes de la plus haute importance et que mes spécimens de la ferme des Boves, à Parnes, décrits sous le nom de *Felixopsammia arcuata* [Filliozat, 1910, p. 804, pl. 14, figs. 7-11] devaient être identifiés à *Circophyllia truncata* E. H."

From Filliozat's restudy of the type-species of *Circophyllia*, it is evident that none of the corals placed in *Antillia* by Duncan can be referred to *Circophyllia*, which is an Eupsammid genus. Duncan's *Antillia lonsdaleia*, *A. bilobata*, and *A. walli* are, therefore, without a proper generic designation.

I must now confess my own sins. Notwithstanding that it was known to me that the name *Antillia* was invalid, I applied it to species of corals as follows: *Antillia dubia* (Duncan) and *A. bilobata* Duncan (Vaughan, 1921, p. 115), *A. bilobata* Duncan (*idem*, p. 127), *A. dominicensis* Vaughan (*idem*, p. 152), *A. bilobata* Duncan and *A. walli* Duncan (*idem*, p. 157), *Antillia dominicensis* Vaughan (Vaughan and Hoffmeister, 1925, p. 324, pl. 3, fig. 9, pl. 4, figs. 1, 2, which are upside down), and *A. sawkinsi* Vaughan (Vaughan and Hoffmeister, 1926, p. 118, pl. 2, figs. 6, 6a).

I should accept responsibility for the misuse of the name by Hoffmeister (Vaughan and Hoffmeister, 1926, p. 119, pl. 2, figs. 7, 7a, 8, 8a) in his *Antillia bullbrookii* and by Faustino (1927, p. 152, pl. 37, figs. 2, 3) in his designation of *Antillia constricta* Brueg. *A. constricta* does not belong to the mussoid corals.

It is also probable that I misled Yabe and Sugiyama in their use of the name *Antillia*.

I shall not undertake a complete revision of the species that have been confused under *Antillia*, but I shall list the American species, the generic identification of which seems certain, and comments will be made on a few other species.

The species which belong to *Antillia* as represented by the type-species, but which are now referred to *Syzygophyllia*, because that is the older name, are as follows:

Syzygophyllia gregorii (Vaughan)
dentata (Duncan)
hayesi (Vaughan)

The American Miocene species which have been referred to *Antillia* and which are now placed in the genus *Antillophyllia* are as follows:

Antillophyllia lonsdaleia (Duncan) genotype
bilobata (Duncan)
walli (Duncan)
dubia (Duncan) (described as *Flabellum*)
dominicensis (Vaughan)
sawkinsi (Vaughan)
bullbrooki (Hoffmeister)
ponderosa (M. Edw. and H.)

I am in doubt regarding *Antillia explanata* Pourtalès, a Recent Barbadian species.

A few Indo-Pacific living species which obviously belong to *Antillophyllia* are *A. geoffroyi* (Audouin), *A. constricta* (Brueg.), *A. sinuata* (Gardiner), and *A. flabelliformis* (Yabe and Sugiyama).

Yabe and Sugiyama (1931) repeated Duncan's error in their treatment of *Antillia*, but I have already stated that I may be at least partly to blame for their confusion. *A. constricta* Brueg. and *A. flabelliformis* Yabe and Sugiyama clearly belong to *Antillophyllia*, and *A. duncani* Yabe and Sugiyama probably does. But *Antillia japonica* Yabe and Sugiyama and *A. nomaensis* Yabe and Sugiyama are musoid corals and do not belong to the same genus as the other species. The last mentioned two species do not appear to be referable to *Syzygophyllia* but look as if they probably represent the young stages of one or more species of musoid corals which are compound in the adult stages.

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PALEONTOLOGY.—*A new species of Lepidocyclus from the Panama Canal Zone.*¹ THOMAS WAYLAND VAUGHAN, Scripps Institution of Oceanography, and W. STORRS COLE, Ohio State University.

The species described below was picked out of material collected by Prof. R. W. Chaney for the senior author in the Panama Canal Zone, at a locality formerly known as Bohio Ridge Switch. The locality is the same as no. 6025 of the Vaughan and MacDonald collections made in 1911 (See MacDonald, 1919, p. 540, and pl. 154).

Lepidocyclus (Lepidocyclus) pancanal Vaughan and Cole, n. sp.
Figs. 1-9.

Test small, lenticular, relatively inflated, slope from central area to margin nearly uniform, without or with a very narrow marginal flange. Outline in plan subcircular or faintly polygonal. One vaguely hexagonal specimen has obscure radii at the edge (Fig. 6). The ornamentation is of two intergrading kinds. On some specimens there are over the center of the test small papillae which are about 130 μ in diameter, as shown on Figures 1-4, 6. On other specimens the papillae are larger and tend to fuse. The latter kind of ornamentation grades into costulation of the apex, such as is represented by Figure 5. Although four flattish costae, with intervening depressed areas, are shown on the apex of this specimen, the costulation is indefinite. A specimen not figured has an apical, central, coarse papilla, with smaller papillae and faint costules around it. Over the centers of some specimens, Figs. 1 and 2, there are slight depressions. It seems that no two specimens are exactly alike. The foregoing notes are based on seven specimens, six of which are figured.

The diameter of megalospheric specimens ranges from 1.5 to 2.0 mm. and the thickness through the center ranges from 0.75 to 1.0 mm. Ratio of diameter to thickness, about two to one.

There are two subequal, small, embryonic chambers which are divided by a straight wall. The length of the two chambers is about 185 μ ; width, about 145 μ ; thickness of wall, about 25 μ .

The equatorial chambers are of three intergrading kinds. Most of the chambers have curved outer and converging inner walls; some of them are

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